mr. Laun

SUMMARY TRANSLATION OF "RADIO" NO. 05 [MAY] FOR 1991

[Rough, summary translations of selected articles, mostly on amateur radio subjects, from **RADIO**, a monthly magazine published jointly by the Ministry of Communication of the USSR and the military-training organization DOSAAF.]

[As part of their support of the activities of the International Amateur Radio Union, the Region 1 IARU Secretariat and The American Radio Relay League, Inc. generously reimburse subscription and postal expenses.]

[Square brackets set off material added by the translator **and not appearing in the original** -- such as a comment, reference, or equivalent expression in another language.]

[Some of the terms used in this summary translation, such as USSR, DOSAAF, etc., were current when the material was published but have since become obsolete. My present intention is to use the "old" terminology in translating documents published up to December 1991. Thereafter, if "new" terminology has come into use, I shall use it.]

Page(s)	HIGHLIGHTS
2 - 4	History of Broadcasting and SWL-ing, by UB5UN.
4	SOV-AM Chess Link.
5	"Krosna" Satellite-TV Receiving Equipment.
6	Continuation of Series by W1RU.
6	List of Best Radio Sportsmen and Sportswomen.
6	RTTY Award.
6 - 7	QRP Activities.
7	SSTV Round Table (UA3AJT Net Control); SSTV Stations.
8 - 9	EME News.
10	Information on WW II Convoys and Tannu Tuva, from VE7BS.

Please send corrections and comments, for possible inclusion in a future issue, to:

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SUMMARY TRANSLATION TO BE SENT TO ARRL 29 JANUARY 1992

pp 6 - 8: "ON THE BROADCASTING BANDS," by Dr. S. Bunin, Kiev.

[Introduction]

Monitoring radio and television broadcasting stations is one of the most fascinating hobbies in the world, involving hundreds of thousands of people who belong to all sorts of associations and clubs. With the development of direct satellite television broadcasting, new possibilities are opening up even for television. Here in our country too there are genuine monitoring enthusiasts and here and there clubs have even been set up for listeners to broadcasting stations. As a result of readers' requests, we're starting a new column, "Listening and Watching the Whole World,"[1] where we propose to describe how the broadcasting services of the world are organized,[2] about reception in the various bands, about satellite reception, etc. We hope readers will suggest other subjects. To begin with, here's an article by Doctor of Technical Sciences S[ergey Georgiyevich] Bunin, UB5UN, a member of the Editorial Board of "Radio" magazine, who for twenty years conducted a weekly program on Radio Kiev for foreign listeners[3].

[Article proper]

In English, listeners to broadcasting stations are called Broadcast Listeners (BCLs) or DXers. Listeners appeared with the appearance of broadcasting at the beginning of the 1920s. At that time, interest in radio was so great that tens of thousands of people all over the world devoted their free time to building or upgrading receivers and spending all day and night long by them in the hope of hearing a new distant station.

Interest in radio listening grew substantially in the 1930s, when many broadcasting stations went over from long wave to medium and short wave.[4] Shortwave listening was particularly fascinating. Here one could hear a low powered station from the other end of the Earth. Such listening helped in gaining knowledge of the capricious [? - prichudlivyye] laws of shortwave propagation.

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[1]In Russian, "Slushayem i smotrim ves' mir" -- literally "We Listen to and Watch the Whole World."

[2]For an article on this subject, see RADIO #06/1991, which arrived and was translated before #05/1991; I was unaware that the later article was part of this series.

[3]In Russian, "nablyudateli" -- literally "observers" but actually "listeners" in the specialized sense of those listening to radio transmissions as a hobby, as opposed to "slushateli" -- "listeners" in the general sense of people listening to a sound broadcast.

[4]Long Wave = LF = 30 - 300 kHz, Band Number 5;
Medium Wave = MF = 300 - 3000 kHz, Band Number 6;
Short Wave = HF = 3 - 30 MHz, Band Number 7.

This group of enthusiasts began to be called short wave listeners (SWLs) -- "listener-shortwavers" ["nablyudateli-korotkovolnoviki"]. Soon this name came to be extended to all listeners, no matter which bands they listened to.

With the appearance at about that time of amateur shortwave communication, SWLs began listening to amateur stations. However, this required not only an ability to receive Morse code by ear, but very sensitive receivers and improved [? - sovershennyye] antennas. Only a small proportion of SWLs listened to [amateur] shortwavers, hoping later to build their own receiving-transmitting shortwave stations.

But the majority continued to listen to purely broadcasting and sometimes commercial stations transmitting reports from information agencies. Besides the fact of receiving a specific station at a specific time, people wanted mainly to learn news first hand, to become acquainted more closely with the culture and politics of the states doing the broadcasting, to improve knowledge of foreign languages, and to receive information by mail from those often exotic countries heard by the SWL.

And to receive such information by mail, SWLs sent the broadcasting station letters or special cards, with so-called "reception reports" -- reports on audibility.

Naturally, such reports are highly prized by those interested in improving the efficiency of their broadcasting. Therefore practically all those to whom SWLs write reply out of gratitude by sending various materials: Broadcasting schedules, postcards with views of the country, photographs of the announcers, pennants, etc. Many broadcasting companies organize all sorts of contests and competitions among SWLs and send prizes to the winners.

Some broadcasting organizations organize SWL clubs, publish bulletins for members, organize tourist trips, and so on.

What does one need to have in mind when writing to broadcasting stations? Above all, what interests them are reports on the technical characteristics of reception conditions and comments on program content.

BCLs usually use a reporting system called SINPO[5], each letter of which denotes a particular parameter and is rated on a five-point scale (figure 1). In addition, the date and time, frequency in kHz, and the type of receiver and antenna used must be indicated. Figure 2 shows one version of such a card.

A report on content must include a short description of the program heard. Programming people at broadcasting stations throughout the world welcome comments concerning the content of specific programs, as well as suggestions. They pay special attention to questions that can be used as the basis for future programs. Very often friendly relations develop between regular SWL letter-writers and station announcers.

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[5]**S**ignal strength, **I**nterference, **N**oise, **P**ropagation disturbance, **O**verall rating. See Appendix 15 to the 1979 Radio Regulations.

SWLs often join together in various national and international clubs. Club members are assigned callsigns, enabling one to determine their locations and addresses. The clubs set up bureaus which centralize the distribution and sorting of cards and letters. They sponsor gatherings, conferences, and competitions.

Of the international associations, the best known is the International Shortwave League (ISWL) [Internatsional'naya korotkovolnovaya liga] headquartered in London, which publishes its own monthly magazine "MONITOR." Many other clubs and broadcasting stations also publish magazines or bulletins. For example, the regular bulletin "Radio Sweden" is very popular in Sweden.

How do things stand with SWLs in the USSR? Let's say, frankly: Not well. The reason is that, beginning in the 1930s, the leadership of the country, shielding society from the influence of foreign propaganda, not only did not welcome listening to foreign stations but often punished people for doing so. Up to quite recently the "radio-voices"[6] broadcasting in the languages of the peoples of our country, were jammed [glushilis'] by special stations built in every city of any size. The direct sending of cards [SWL QSL cards] or letters abroad could result in great unpleasantness.

Fortunately, times are changing, and great possibilities are today opening up before Soviet SWLs.

Unfortunately, the trouble is that widely distributed receivers in our country not only don't have calibrated scales, but don't have shortwave bands higher than 12 MHz (25m). Yet very many distant and rare stations are in the 19, 18, 16, 13, and 11m broadcasting bands. Let us note, by the way, that many firms abroad manufacture special receivers for SWLs with several devices to increase listening efficiency and to facilitate the summarizing of results -- digital scales, frequency and tuning memory, frequency scanning [? - skanirovaniya po chastotam], switching off and on the receiver by timer, and others.

As concerns our national SWLs, for many of them building such devices can become a fascinating technical task.

pp 10 - 11: "COMPUTER COMMUNICATION AND ... CHESS," by V. Teremetskiy.

[About a communication link for chess matches, established by "SOVAM TELEPORT," a joint Soviet-American enterprise, in cooperation with the All-Union Scientific-Research Institute of Applied Automated Systems (Vsesoyuznyy nauchno-issledovatel'skiy institut prikladnykh avtomatizirovannykh sistem -- VNIIPAS).]

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[6]The term "radio-voices" ("radio-golosa") covered Western stations such as the British Broadcasting Corporation, the Voice of America, Radio Canada International, Kol Israel, Deutsche Welle, and Radio Liberty (later Radio Free Europe/Radio Liberty).

pp 12 - 13: "WHAT DOES A 'KROSNA' START WITH?" by A. Zin'kovskiy, Staff Correspondent, "Radio" Magazine.

Many like myself became acquainted with the "Krosna" in the Sales Department of the Moscow Electromachinebuilding Plant in Memory of the 1905 Revolution [Moskovskiy elektromashinostroitel'nyy zavod pamyati revolyutsii 1905 goda]. The first mass-produced system for direct reception of television programs from satellites was on display, surrounded by future buyers. On the screen of an ordinary television receiver with a small attachment, one after another of the programs translated by the European satellite EUTELSAT 2F1 could be seen.

Our current reality is full not only of space wonders but also of earthly paradoxes. Until August 1989, the almost 150-year-old enterprise produced regular consumer goods, perhaps the most sophisticated of which were coffee grinders [? - kofemolki].

Sergey L'vovich Komissarov, Chief Designer, explained why they called the stations "Krosna." About a hundred years ago, a small plant called "Krosna" stood on the same spot; it producing looms.

The "Krosna" is designed to received eight television programs from any geostationary satellite between 10.8 and 11.7 GHz. It's designed for individual as well as collective use. It consists of an antenna with an SHF [SVCh] module and tuner. Antennas with a diameter of 1.5 or 2m are installed in a support-turning device which does not permit changing the direction of the antenna but is intended only to permit orienting the antenna, when installing it, on a single satellite. The antenna is affixed to a roof, a balcony if the balcony "looks" south ["smotrit" na yug] or approximately south. The antenna is equipped with an alarm device, which goes off if an attempt is made to remove the SHF module.

The antenna diameters selected permit reception of programs from European satellites, the signals from which are 10 to 20 dB weaker at the latitude of, say, Moscow, than in Germany, France, etc., where the antenna diameter often doesn't exceed 60 cm.

The most important antenna element is the SHF module. It converts the signal from the GHz band[7] to the 950 - 1750 MHz band, so that it may then be transmitted without great loss by coaxial cable to where the tuner and television set are installed.

The first batches of "Krosnas" were manufactured with SHF modules from Japan. Recently, local manufacture was arranged.

There are 56 workers assembling one thousand tuners a month and earning an average of 400 to 450 rubles a month.

After advertisements were placed in Ogonek and other publications, demand clearly exceeded supply. Sets have already been made for [export to] Poland and Hungary.

The 1.5m set costs 30,000 rubles and the 2m set R.40,000.

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[7]Assumed to refer to the SHF range, 3 to 30 GHz, Band Number 10. See No. 208 of the 1979 Radio Regulations.

pp 14 - 15: "ACHIEVEMENT OF ALL HUMANITY," by Richard Baldwin, W1RU, President, IARU.[8]

[Radio conferences of 1903, 1906, and 1912. WARC-1979 and Resolution No. 640 on the use of the amateur service in disasters. Concept of a common amateur license. Rôle of the amateur service in spreading good will.]

p 15: "BEST ["STRONGEST"] SPORTSMEN OF THE YEAR."

[Ten best sportsmen and sportswomen in various categories -- radiomen mixed events, radio amateur three-man teams, speed radiotelegraphy (separately by hand and by machine), sport radiodirectionfinding, mini-shortwave (MINI-KV), judges.]

pp 17 - 19: "CQ-U."

INFO*INFO*INFO, edited by A. Gusev, UA3AVG

DIPLOMAS [CERTIFICATES].

The radio amateur association ACDXA (see "CQ-U" in RADIO #09/1990) has established an RTTY-AWARD for working all ITU Zones[9] in the Soviet Union (19 - 26 and 29 - 35) and Soviet stations in the Antarctic (75) since 1 January 1985 on any band. Cost: Two rubles. Apply to P. O. Box 1, 656057 BARNAUL.

QRP NEWS.

Last year [1990], the Soviet QRP Club (U-QRP-C) sponsored the "Ural-90" radioexpedition to the border area between Sverdlovskaya Oblast' and Permskaya Oblast'[10], the so-called anomalous phenomena zone[11]. The expedition was organized by collective station UZ9CWY of the Sverdlovsk Railroad Transport Technical School [sverdlovskiy tekhnicheskiy tekhnikum zheleznodorozhnogo transporta].

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[8]Earlier articles in this series written by W1RU appeared in RADIO #12/1990, RADIO #04/1991, and possibly other issues.

[9]"CIRAF Zones," the numbered "Geographical Zones for High Frequency Broadcasting" into which the land masses of the Earth are divided; for amateur purposes, the ocean areas have been divided into additional zones and numbered. The acronym CIRAF derives from the Spanish name of the ITU Conference that originated the concept -- **C**onferencia **I**nternacional de **R**adiodifusión por **A**ltas **F**recuencias (International High Frequency Broadcasting Conference), Mexico City, 1948. See Appendix 2 to the 1979 Radio Regulations.

[10]Permskaya Oblast' = Oblast' No. 140, embedded RSFSR callsign identifier 9F. Sverdlovskaya Oblast' = Oblast' No. 154, embedded RSFSR callsign identifier 9C.

[11]See article in RADIO #07/1990, "Secrets of the 'Anomalous Zone,'" by Konstantin Kh. Khachaturov, UW3AA, who led an expedition to the Perm' anomalous zone in February 1990. UW3AA's address was given in RADIO #06/1990 for QSLing 4L1QRQ/9, the "Anomalous Zone" station: P. O. Box 1, 117588 MOSCOW.

In two weeks, operators UW9CX (the expedition leader), RA9CHU, UV9CJ, UA9CMR, RA9CLP, and UA4-092-380 had 3486 contacts from expedition station EK9QRP[11], 1685 of them on c.w., with 72 DXCC countries on all continents and 155 "oblasts"[12] of the USSR and all Union Republics. Countries worked included LZ, CT, ISØ, OHØ, YU, LA, HB9, SP, I, 7O, VK, FY5, OE, SM, VU2, OH, G, KL7, F, DL, PA, SV, J28, EI, JA, HA, 4X, YO, 9H, TF, VE, ZS, GI, EA, OZ, ON, W, TK, ZAØ, OJ1, GM, CT3, TA, KP2, OK, JT, GW, AP, S79, 5Z, PY, and Y2.

This summer [1991], a mobile version of a radioexpedition may be held. EK9QRP is to operate from multiple locations, where QRP Club members live.

DX QSL VIA ...

[Eight of 143 QSL routes:] LZ1M via LZ1RU, LZ5X via LZ1HA, LZ6W via LZ2KSQ, R1W via UA1WZ, USØSU/1 via UAØKCL, V31BH via K3FEN, YK1AO via UA6YW, YQ3R via YO3CD.

SSTV NEWS.

An SSTV "round table" ["kruglyy stol"] is held Sundays at 1030 MSK on 14230 kHz (±QRM). UA3AJT is net control. Information may be obtained concerning the distinctive features of SSTV, equipment, etc.

A 7 MHz "round table" is planned, probably on Saturdays, for contacting SSTV stations that are in the dead zone on 14 MHz.

UA3AJT, RA3AHQ, UW3AT, and RA3AL are active SSTV stations in Moscow.

UA3TN, UA3ZU, UB5LAK, RB3MW, UP3BD, and RB4LT may often be found on the air using SSTV.

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[12]The quotation marks around the word "oblasts" indicate that the term was intended to cover, in addition to oblasts <u>per se</u>, other geographical units equated to oblasts for amateur radio (and other) purposes, namely small SSRs, ASSRs, krays, autonomous oblasts, autonomous okrugs, and large cities. This system meant that any given point in the USSR was included in one "oblast'" or another, and no one was left out of the large number of amateur radio events based on oblasts.

NOTE: A similar situation would exist in the United States were the County Hunter organization to equate, for amateur radio purposes, the District of Columbia and independent cities such as Baltimore MD or Alexandria VA, to counties, so that no point in US territory did not lie within one distinct county-level entity or another. Note in this connection that the Soviet "oblast'" system does not provide (as the county-hunting system is understood to provide) for counting an adjacent "normal" entity for credit, but rather creates a distinct numbered entity worth separate credit.

VHF*UHF*SHF, edited by S. Bubennikov, RV3DS
P. O. Box 270, 141006 MYTISHCHI[13]

EME.

Last summer and fall [1990], several more ultrashortwavers made their first contacts on 144 MHz via the Moon. Almost all of them -- UA3RBO, RB5EC, UB4EWA, RA4YA, UB5EQS, UA3XEH, and UA3PC, as others before them -- started with a contact with the most powerful EME-station -- W5UN, which has a gigantic 48 x 17-element antenna with a gain of not less than 31 dB. By the way, W5UN had worked 1275 EME stations as of the beginning of the year [1991 assumed].

Many of the same callsigns show up in reports. This time they're listed in inverse order of antenna gain (energy loss on the path Earth - Moon - Earth is more or less constant at about 253 to 255 dB). In addition, "favorite" EME frequencies are indicated.

KB8RQ - 29 dB - 144016 kHz - 732 EME contacts.
W4ZD - 27 dB - 144088 - 427 EME contacts.
SM7BAE - 26 dB - 144023 kHz.
VE7BQH - 25 dB - 144040 kHz - 721 EME contacts.
WA6MGZ - 24 dB - 144028 kHz.
WØHP - 24 dB - 144082 kHz.
VE3BQN - 24 dB - 144086 kHz.
I2FAK 24 dB - 144031 kHz.
SM2CEW - 23 dB - 144087 kHz.
AF9Y - 23 dB - 144032 kHz.
KD8SI - 23 dB - 144054 kHz.
K1MNS - 23 dB - 144068 kHz.
WØRWH - 23 dB - 144076 kHz.

In addition, QSOs have been made with VK5MC (who has a two hundred meter rhombic antenna, transmits on 144012 kHz, and receives between 144000 and 144012 kHz), KL7X (144012 kHz), and ZS6ALE (144060 kHz).

Our leader, UA1ZCL, brought his 144 MHz EME count to 433. In the above period he worked RB5PA, DF9YF, W7VXW, N7AM, W9OEH, AA7A, G3XBY, KJ7F, WB2JHG, PA3FSA, OE3JPC, I1ANT, DJ6FU, SM5CFS, PA2CHR, RB5EC, UV1AS, OZ1GEH, IW5AVM, and UL7BAT.

UA1ZCL was followed by UA9FAD with a total of 219 EME stations worked, UG6AD - 195, UA3TCF - 146, RA6AAB - 132, and UA9SL - 128.

The following stations had several tens of contacts. They are listed in inverse order of results. RA3YCR, RA3LE, UA6LJV, RA6AX, RA9FMT, UA4NM, UA3MBJ, UY5OE, UA4NX, UZ3DD, RB5AL, UA4AK, UV1AS, UL7TQ, UA4NT, UL7BAT, UD6DE, UT5UAS, UL7LU, and RB5PA.

Apparently no new stations appeared on 430 MHz.

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[13]Perhaps RV3DS would find it useful to receive courtesy subscriptions to Western VHF/UHF/SHF publications for use in his column.

UA6LGH modified his antennas for this band [430 MHz], enabling him to change polarization by rotating the antenna around the axis of radiation. This led to several interesting QSOs, with F1ANH, DL9EBL, JA9BOH, CU8EME (a French expedition to the Azores headed by F6HKA), F8SQ, F1AYE, and HG1YA.

The second EME expedition to [Soviet] Central Asia by collective station UZ3YWB[14], headed by RA3YCR, took place in September 1990. This time the expedition operated only from Khorezmskaya Oblast' (UI2U)[15] and only on 430 MHz. Several tens of QSOs were made.

In October [1990], RB5LGX became the second owner, after UA1ZCL, of a large-diameter, in his case 10.7m, parabolic antenna. Solar noise, which usually determines the capability of an EME station, was received at 5 dB on 144 MHz and 18 dB on 430 MHz. In both rounds of the ARRL contest, RB5LGX made 29 QSOs on 430 MHz.

UA1ZCL worked 44 new stations, bringing his total to 142 and making him leader in this band [presumably 430 MHz]. His new stations were LX1DB, F1ANH, EA3DXU/P, W8IDU, DL9EBL, F8SQ, CU8EME, F6CER, W7GBI, K1MNS, F1AYE, VE1BVL, GD4IOM, G4DHF/TF, HG1YA, UI2U[13]/UZ3YWB, OH2DG, K1RQG, I6PNN, W7ZRC, W5RCI, WD5AGO, UA4NM, VE3BQN, K5WXN, NU7Z, N2IQU, NØIS, K3EAV, VE6AFO, I5TDJ, OE9HHV, W2SZ, FF1OLW, K5AZU, JA1JRK, F6IOC, PAØAVS, KDØGS, WA3BUX, WA8VPD, 4X1IF, DL9NDD, and IW5AVM.

On 430 MHz, the stations having the most QSOs were K2UYH - 416, DL9KR - 396, K5JL - 378, N4GJV - 306, and K1FO - 262. Next, not counting stations in [Western] Europe or the USA, came JA6CZD - 183, JA9BOH - 163, JA4BLC - 152, UA1ZCL - 142, ZL3AAD - 112, UA6LGH - 110, RA3YCR - 102, XE1XA - 92, RA3LE - 92, UA9FAD - 86, VK3UM - 81, RB5LGX - 73, ZS6JT - 56, and ZS6AXT - 47.

UA1ZCL continues to be the only Soviet station operating on 1.2 GHz. In May 1990 he worked EA3UM, in August F1ANH, in October SMØERR, and in November JR4BRS and K9KFR. In all, he has worked 40 stations on this band.

[End of summary translation of RADIO #05/1991]

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[14]Under the current callsign system, instituted in May 1984, collective stations have "two by three" (six-character) callsigns with W, X, Y, or Z as the second (middle) letter of the suffix. The embedded RSFSR identifier 3Y identifies the station as being licensed for primary operation in Bryanskaya Oblast', Oblast' No. 118, located southwest of Moscow.

[15]Oblast' number 055 in Uzbekistan, embedded non-RSFSR identifier I-U. No number is required in non-RSFSR identifiers as the letter preceding the number indicates the Republic and the letter following the number indicates the oblast'-level entity. Why the number "2" was used in this instance is not known.

COMMENTS BY VE7BS

Bob Eldridge, VE7BS, Erickson Road RR1, Pemberton BC V0N 2L0, wrote on 16 December 1991, providing the following information on the "PQ Polar Convoys"; these were mentioned on pages 22 and 26 of summary translation RADIO #04/1991 in connection with amateur events marking their 50th anniversary. The "PQ" convoys were some of the World War II convoys sailing in the direction from the North Sea to Murmansk. He believes there were nineteen of them. Some of the convoys from Murmansk in the opposite direction were coded QP. "Russian Convoys" by B. B. Schofield, Pan Books, provides detailed information. VE7BS's source for all of this is NM7M.

In the same letter, Bob mentions a "Friends of Tuva" newsletter about Tannu Tuva, also known as the Tuvinskaya Autonomous Soviet Socialist Republic, "Oblast'" number 159, embedded RSFSR identifier ØY. He assumes a sample copy would be available for a 9" x 4" SAE to Box 70021, Pasadena CA 91117-7021.

(Tannu Tuva was part of the Chinese Empire until 1911, became a Russian Protectorate in 1914, and proclaimed its independence in 1921. It was annexed by the USSR in 1944 and given the status of an autonomous oblast' within the RSFSR. In 1961, it was elevated in status to an autonomous SSR, still within the RSFSR. The Tuvinskaya ASSR, as it is known in Russian, is "oblast'" No. 159. Amateur stations in it contain the embedded RSFSR identifier ØY.)